

FIGURE 1A(1)

CTGTGCAGGAAGGAGAACCTCAAAGACTGGATGAACCGGCGCTGCAGCTGGAGGACCGGGA
 GCACGGCGTGTGCCTGCACATCTTCTGCAGATCGCAGAGGCAGTGGAGTCTGCACAGCA
 AGGGACTCATGCACAGGGACCTCAAGCCTCCAACATATTCTTCACAATGGATGATGTGGTC
 AAGGTTGGGACTTTGGACTGGTACTGCTATGGACCAAGATGAAGAAGAGCAGACTGTTCT
 GACTCCAATGCCAGCCTATGCTACGCACACGGGACAAGTAGGGACCAAGCTATACATGAGCC
 CAGAGCAGATTCATGGAAACAACTACTCCCATAAAGTGGACATCTTCTCTTAGGCTTGATT
 CTGTTGAACCTCTACCCATTAGCACCCAGATGGAACGAGTCCGGATTTAACTGATGT
 CAGAAATCTCAAGTTCTACTGTTCACTCAGAAATATCCCCAAGAGCATATGATGGTTC
 AAGACATGCTCTCCATCCCCCAGGAGCGCCTGAAGCCACAGACATCATTGAAAATGCC
 ATATTGAGAACCTGGAGTTCCCGGGAAAACGGTTCTGAGACAGCGTCCGCTCCATGAG
 TTCATCTGGAACAAAACATTCCAGACAGCCCAGCTGCTCGTACAGCCACTGCCTGGCAACT
 AGCCCTCAGCTGCCCTCGAAGGTGGCAGAGCAGGCACCCCTGAGGAACATGGCTCTCCACAGC
 GGTGGACTCAGATTATGCTTGATCAGTTGGACTCGGGACCAATTCTAAGTCAGACT
 GGATCACGGGCCTAACCCAGTTGATCTTAACCTGAACCTCAAGGAAAGGGCTGTAAAGGA
 CACATGAACCTGTTGCTTGTGGTCTCAAAGACTAGCTGGTCACTAGCTTAAAGCACAAAA
 TCACCAGGCGGTAGAAGAGATCCTCAAATGGTCTGAACCTGGAAATGTCTTAAAGCACAAAA
 GTGTAAAAGACCCCTCACATGGGAACATACATGTTCTAGAAACGTGCTTCTAGAGATAACAA
 GGGTGAATTTGGAAGTGGTTATAAGCTGACTTCATTTTCCCTGGTGAGCCGTGAC
 CCATCTGCACTAATTGCAAGGCACATAGCACAAGCTGGTCGCCATTATGTCGGTAGTGT
 CATAGTCTGCAGCAGTGAATAGCGTCATTCTCAGGTGGTCTAGGGAGCGCGAAAAGCTTT
 TTGTACTTTACCTCAAATAATGGAAAATGAAGCTTTAGGTATTGGTAAAAGATCTGA
 TTGAGAGTTTGGTTTTTTAAGTGCAGTAGGAAATGGATTATCTATTACAACACTAAC
 TTCTCAATTATGGAATTCTATCCTAGTAGAATTCTGTCTTAAATGTAATACTACAAGTGG
 GTACATTCCCCAAACTGATTATAGATAAGTTAACATCTCAACTTGCTAACATGTTCA
 TTTTCTGTAAATACGTTATTTTATTATAAAATTCTGAAATCAATCCATTGGGTT
 GGTGGTGTACAGAACGCACGTAAGTGTGATAACTATTATGACTTCTTCAAGTCTAAATGAT
 TTAATAAAAAAATTTAAATTAAAAAAAAAAAAAAAAAAAAA (SEQ ID NO:1)

FIGURE 1A(2)

MERATRPGPRALLLLFLLLGCAGAAGISAVAPARSLLAPASETVFGLGAAAAPTSAAARVPAVA
TAEVTVEDAEALPAAAGEPESRATEPDDDVELPRGRSLVIISTLDGRIAALDAENDGKKQW
DLDVGSGSLVSSSLSKPEVFGNKMIIIPSLDGDLFQWDRDRESMEAIPFTVESLLESSYKFGD
DVVLVGGKSLITYGLSAYSGKLRYICSLGCCRWDSDDEMEEEEDILLLQRTQKTVRAVGPRS
GSEKWNFSVGHFELRYIPDMETRAGFIESTFKPGGNKEDSKIISDVEEQEATMLDTVIKVSV
ADWKVMAFSRKGGRLEWEYQFCTPIASAWLVRDGKVIPIISLFDDTSYTASEEALGDEEDIVE
AARGATENSVYLGMYRGQLYLQSSVRVSEKFPTSPKALESVNGENAIIPPLTIWKPLIHSP
SRTPVLVGSDEFDKCLSNDKYSHEEYNGALSILQYPYDNGYYLPYYKRERNKRSTQITVRF
LDSPHYSKNIRKDPILLHWWKEIFGTILLCIVATTFIVRRLFHPQPHRQRKESETQCQTE
SKYDSVSADVSDNSWNDMKYSGYVSRYLTDPEPIQCMGRGGFGVVFREAKNVDDCNYAIKRI
RLPNRELAREKVMREVKALAKLEHPGIVRYFNAWLETPPEKQEMDEIWLDKDESTDWPLSS
PSPMDAPSVKIRRMDFSTKEQIEVIAPSERSRSFSGVGISCQTSSESQFSPLEFSGTDC
GDNSDSADAAYNLQDSCLTDCEVEDGTVDGNDEGHSFELCPSEASPYTRSREGTSSSIVFE
DSGCGNASSKEEPRGNRLHDGNHYVNKLTDLKCSSRSSSEATTLSTS PTRPTTLSLDFTKN
TVGQLQPSSPKVYLYIQMQLCRKENLKDWMNRRCSLEDREHGVLHIFLQIAEAVEFLHSKG
LMHRDLKPSNIFFTMDDVVKGDFGLVTAMDQDEEEQTVLTPMPAYATHGTQVGTKLYMSPE
QIHGNNYSHKVDIFSLGLLIFELLYPFSTQMERVRILTDVRNLKFPLLFTQKYPQEHHMVQD
MLSPSPTERPEATDIIENAIFENLEFPGKTVLRQRSRSMSSSGTKHSRQPSCSYSPPLPGN
(SEQ ID NO:2)

FIGURE 1B

underlined = deleted in targeting construct

[] = sequence flanking Neo insert in targeting construct

CGATGTCTGCACAAGGCTGTCACTCAGGTGGCAGTGGCTGACACGTGGCCGGCAGCTCT
 GCTGCTGCGGCGCGAAGTCGAGAGGC GGCGGGGTCGCGCGCGCTCGCATTGCTCCG
 AGGCTCGAGCGGGCGATACGGGCGGGCGCCGACGGCAGGGCTCCATGCCCGCGGTGGG
 GCGGGCGCTGATGGAGCGCGCCACCCGGCCGGCGCGCTGCTGCTGCTTCTGT
 TCCCTGCTGCTGGGCTGCGCGGGGATCTCTGCGGTCGCGCCGCCGAGCTTGCTT
 CTCCCGCGTCGGAGACAGTGTGTTGGCTTAGGGCAGCGGGCGCCCGACTTCGGCGC
 GGGTGCCTGCGGTGGCAACGGCGAAGTGAACCGTGGAGGAACGCCGAGGCATTGCCGGCTG
 CCGCTGGCAACCGGAGTCACGCGCAGGGAGCCGATGACGACGTGAACTGCGGCCTC
 GCGGCAGGTCTTGGTAATCATCAGCACTTTAGATGGACGAATCGCTGACTGGATGCCG
 AGAATGATGGGAAAAGCAGTGGGATTGGACGTGGGCTGGTCTGGTCTGGTTCATCTA
 GCCTCAGCAAGCCAGAGGTGTTGGAACAGATGATCATCCCCCTGGATGGAGACC
 TCTTCCAGTGGGACCGGGACCGAGAGACATGGAGGCCGCCCCCTCACGGTGGAGTCCC
 TGCTCGAATCTCCTACAAGTTGAGATGATGTTGTTCTGGTGGAGGGAAATCTCTGA
 TTACATACGGACTCAGTGTCTTACAGTGGAAAGCTGAGGTATATCTGTTCTGCCTTGGGAT
 GTCGCCGATGGGATAGTGATGAAATGGAAGAAGAGGAAGACATCTGCTTCTGCAGCGTA
 CGCAGAAGACTGTGCGAGCTGCGGGCTCGAAGCGGCAGTGAGAAGTGGAAATTCAAGTG
 TTGGCCACTTGAACCTCGGTATATTCCAGACATGGAAACTAGAGCCGGATTCAAGTAA
 GCACCTTAAACCGGGTGGAAACAAAGAAGACTCTAAATTATTCAGATGTGGAAAGAAC
 AAGAACGCCACCATGCTGGACACAGTGATAAAAGTTCCGTTGCTGATGGAAGGTGATGG
 CGTTTAGTAGGAAGGGAGGCCGCTGGAATGGGAGTACCGAGTTGTACTCCCATCGCGT
 CCGCCTGGCTGGTGGAGGGATGGCAAGGTATCCCATCAGCCTGTTGATGATAACAGTT
 ACACAGCCAGCGAAGAACGCTTGGAGACGAAGAAGACATTGTAGAGGCTGCTGGGAG
 CCACAGAGAACAGCGTGTACTTAGGGATGTACAGAGGCCAGCTGTACCTGCAGTCGTCCG
 TCAGGGTCTCAGAAAAGTCCCTACAAGCCAAAGGCCCTGGAGTCTGAAATGGCAAA
 ATGCAATTATTCCCTGCGACGATCAAATGGAAGCCCTTAATCCATTCTCCTTCTAGGA
 CTCCCTGCTTGGTTGGTCTGATGAAATTGACAAATGTCTAAGTAATGATAAGTATTCCC
 ACGAAGAATACAGTAATGGTGCACCTTCAATCCTCCAGTATCCATACGATAACGGTTACT
 ATCTGCCATACTACAAGAGAGAAAGGAATAAGCGGAGCACGCAGATCACAGTCAGGTTCC
 TGGACAGCCCCCACTACAGCAAGAACATCCGCAAGAAGGACCTATCCTCTGCTGCACT
 GGTGGAGGAGATATTGGGACGATCCTGCTTGCATCGTAGGCCACGACCTTCATCGTGC
 GCAGGCTTCCATCCTCAGCCCCACAGGCAGCGGAAGGAGTCTGAAACTCAGTGCAGA
 CTGAAAGTAAATACGACTCCGTGAGTGGCAGTGTCACTGACAACAGCTGGAATGACATGA
 AGTACTCAGGATACGTATCCGATATCTAACAGATTGAGCCAATTCAAGTGCATGGTC
 GTGGTGGCTTGGCTGTCTTGAGCTAAAACAAAGTAGATGACTGCAATTACGCTA
 TCAAGAGGATCCGGCTCCCAACAGGGAGTTGGCACGGGAGAAGGTAATGCCGGAAAGTTA
 AAGCCTGGCTAAGCTGGAACACCCAGGCATTGTGAGGTATTCAACGCCCTGGCTGGAAA
 CCCCACCAAGAGAAGTGGCAAGAAGAGATGGATGAGATCTGGCTCAAAGACGAAAGCAG
 ACTGGCCGCTCAGCTCCCTAGCCGATGGATGCCCATCTGTTAAGATCCGAAGGATGG
 ATCCYTTCTCTACAAAAGAGCAGATCGAAGTCAGTCCTCTCTGAAAGAAGTCGGT
 CTTTCTCGGTGGGCTTTCCTGTGGCCAGACAAGCTCATGGAGAGGCCAGTTCTCTCCCC
 TGGAGTTCTCAGGGACAGACTGCGGAGACAACAGTGAATCAGCGGACGCAGCTACAACC
 TCCAGGACAGTTGCCGTACGGACTGCGAGGGACGTTGGAGATGGCACCGTGGACGGCAATG
 ACGAGGGACACTCCTTGAACTTGTCCGTCCAAGCTTCTCCC [TATAACCGGTCTAGG

FIGURE 2A(1)

GAAGGAACGTCCTCCATAGTGGTGGAGACTCTGGCTGCGGCAACCGCGTCCAGTAAG
GAGGAGCCCAGAGGAACCGGCTGCATGATGCAACCATATTGTTATAAGCTAACTGAT
CTCAAGTGTCTCCAGCAGCAGGCTTCTTCAGAAGCCACCCATTGTCACCTCCCTAC
AGGCCAACCACTCTAACGCTTGGATTTACCAAGAACACTGTGGGCAGCTCCAGGCCAGC
TCCCCCAAGGTGTATCTGTACATTCAAGATCGCAGCTGTGAGGAAGGAGAACCTC] AAAGA
CTGGATGAACCGGGCCTGCAGCTGGAGGACGGGAGCACGGCGTGTGCGCTGCACATCTT
CCTGCAGATCGCAGAGGCAGTGGAGTTCTGCAC [AGCAAGGGACTCATGCACAGGGACC
TCAAG] CCTTCAACATATTCTCACAAATGGATGATGTTCAAGGTTGGGACTTTGGA
CTGGTGAATGCTATGGACCAAGATGAAGAAGAGCAGACTGTTCTGACTCCAATGCCAGCC
TATGCTACGCACACGGGACAAGTAGGGACCAAGCTACATGAGCCCAGAGCAGATTCT
GGAAACAACTACTCCCATAAAGTGGACATCTCTCTTAGGCTGATTCTGTTGAACCTC
CTCTACCCATTCAAGCACCCAGATGGAACGAGTCGGATTAACTGATGTCAGAAATCTC
AAGTTCTCTACTGTTCACTCAGAAATATCCCAAGAGCATATGATGGTCAAGACATG
CTCTCTCATCCCCACGGAGGGCCTGAAGCCACAGACATCATTGAAAATGCCATATT
GAGAACTGGAGTTCCGGAAAAGCGGTTCTGACAGCGGTCCGCTCATGAGTTCA
TCTGGAACAAAATCTCACAGACAGCCCAGCTGCTGACAGCCCACGCTCTGCCAACTAG
CCCTCAGCTGCCCTCGAAGGTGGCAGAGCAGGCCACCCCTGAGGAACATGGCTCTCCACAGC
GGTGGACTCAGATTATGCTTGATCAGTTGGACTCGGGACCAATTCTAAGTCAGA
CTGGATCACGGCCTAACCAAGTTGATCTTAACGACTCAAGGAAAGGGTGTGAA
AGGACACATGAACCTGTTGCTTGTGGTGTCCAAGACTAGCTGGTCAGCTTAGAACCTT
CACTTTCAACCAGGGTAGAAGAGATCCTCAATGGTCTGAACTGGAATGTCCTTAA
GCACAAAAGTAAAGACCCCTCACATGGGAACATGTTCTAGAAACGTCGTTCT
AGAGATACAAGGGTGTGAAAGTGGTTATAAAGCTGACTCATTTCCTGCT
GTGAGCCGTGACCCATCTGACTAATTGCAAGGCACATAGCACAAGCTGGTCGCCATT
TATGTCGGTAGTGTCTAGTCTGCAGCAGTGAATAGCGTCATTCTCAGGTGGCTAGGG
AGCGCAGAAAGCTTTTGACTTTTACCTCAAAATGGAAAATGAAGCTTTAGGG
ATTGGTCAAAGATCTGATTGAGAGTTGGGTTTTTTAAAGTGCAGTAGGAAATG
GATTATCTATTACAACACTCTCAATTGAAATTCTTATCCTAGTAGAAATTCTGTC
TTAAATGTAATACTACAAGTGGTACATTCCCCCAAACGATTAGATAAGTTAAATCA
TCTCAACTTGCTAACATGTTTCAATTCTCTGAAATACGTTATTCTTATTTATAAA
AATTCTGAAATCAATCCATTGGGTTGGTGTACAGAACGCACTAAGTGTGATAACT
ATTATGACTCTTCAAGTCTAAATGATTAAATAAAAAAATTAAATTAAAAAAA
AAAAAAAAAAAAAA

FIGURE 2A(2)

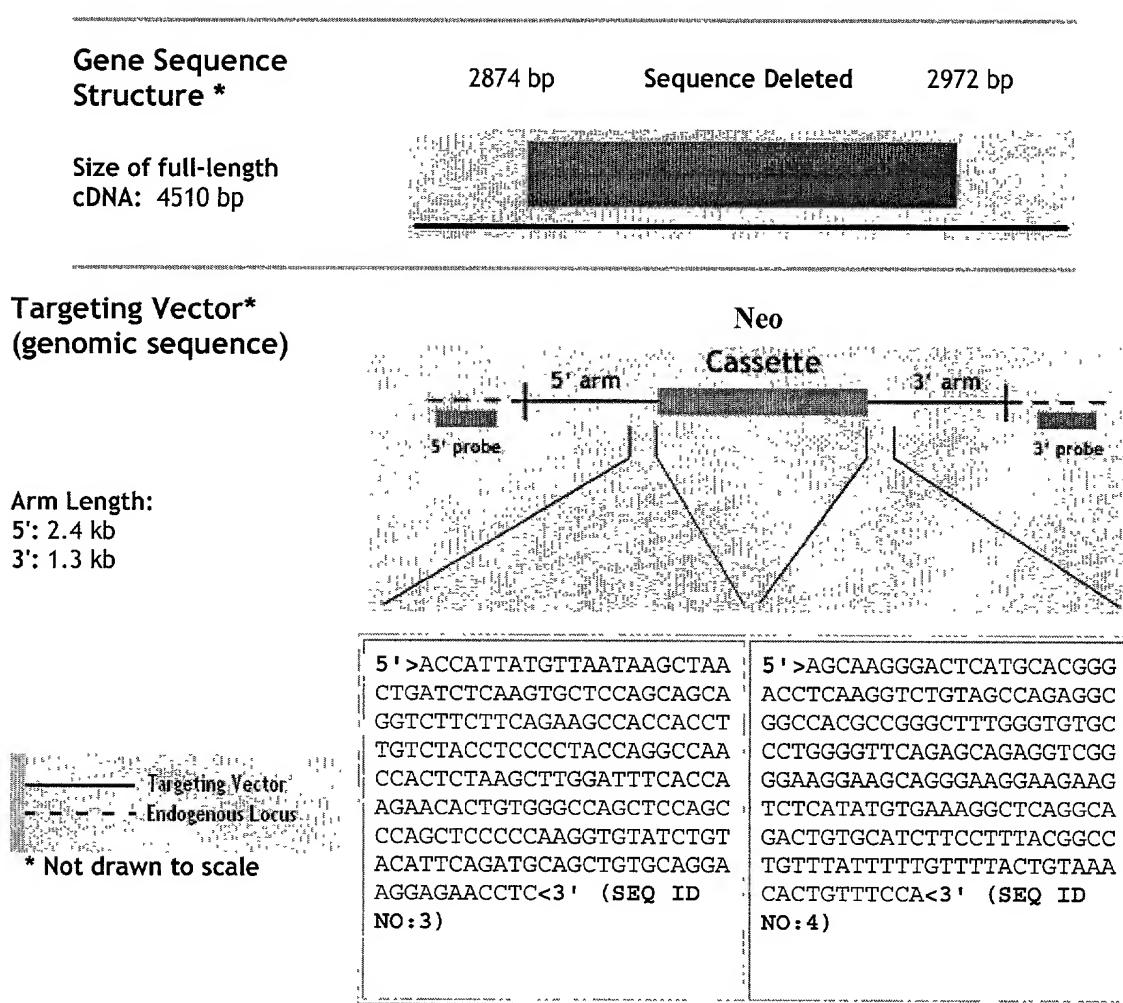


FIGURE 2B

Phenotypic Data Summary - Metrazol

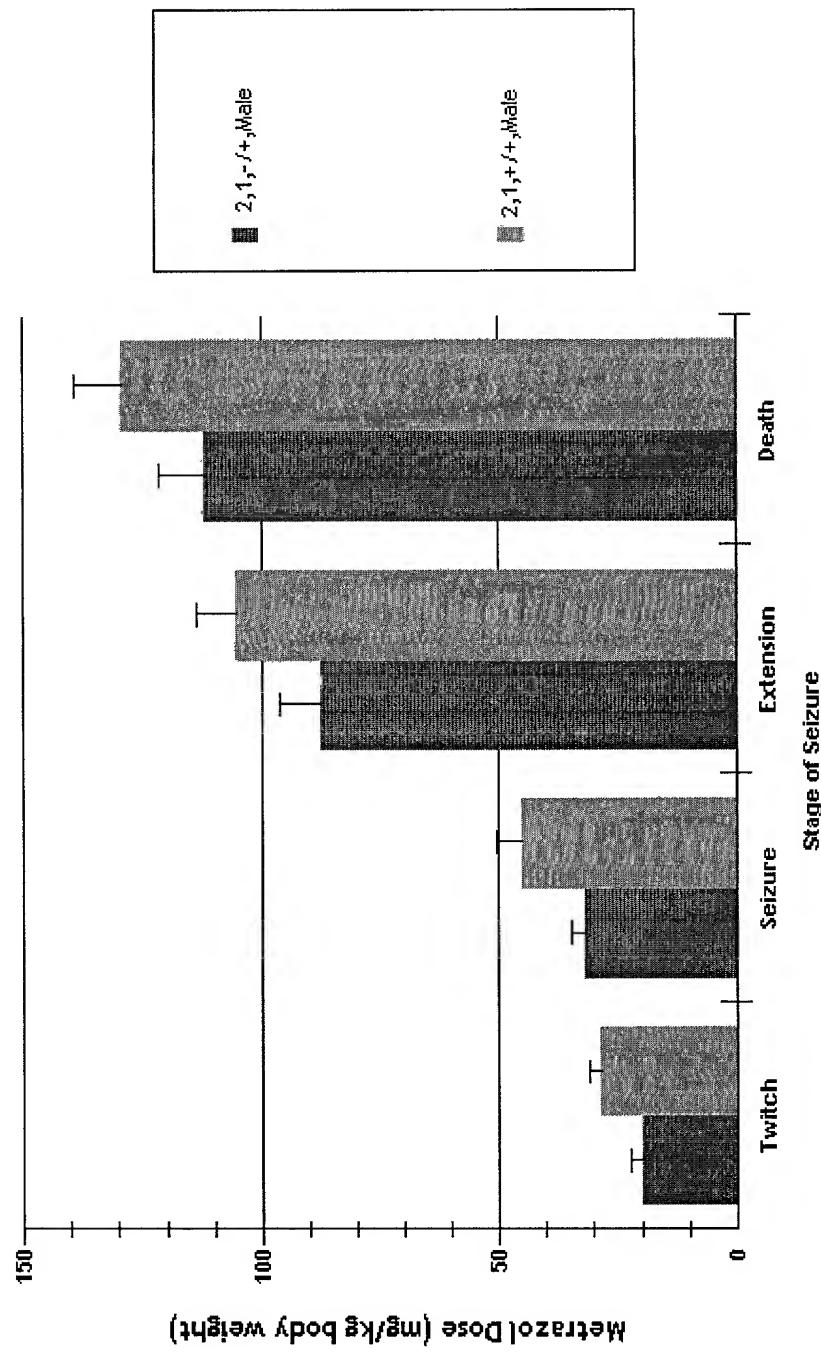


FIGURE 3